

# **LESSON PLAN: Patterns**

## **An Elementary Science Lesson Plan Designed For Group Inquiry Based On The 5E Inquiry Model**

### **GRADE LEVEL:**

This lesson is designed for a kindergarten classroom. **(Structured)**

### **SCIENCE CONCEPT (the Main Idea or Enduring Understanding):**

This lesson will help students understand the similarities and differences of patterns that appear on the body of many different animals. The students will learn how to observe patterns both on the small scale, observing a live animal and matching patterns to animals.

### **RELATIONSHIP TO CALIFORNIA SCIENCE CONTENT STANDARDS:**

2. a. Students know how to observe and describe similarities and differences in the appearance and behavior of plants and animals (e.g., seed-bearing plants, birds, fish, insects).

### **LEARNING OBJECTIVES:**

1. Students will identify a pattern on the Schneider's skink and correctly color the pattern on a sheet of paper.

### **EVALUATION IDEAS:**

1. formative:

The formative assessment should focus on if, while observing the Schneider's skink, they can discover a pattern on it. One way to do this is to assess the student's ability to draw the pattern they see on the Schneider's skink. The teacher should make sure that the students draw shapes and use color appropriate for the pattern. Additionally, the teacher can grade whether they can take the small pattern on the worksheet and match it to the correct animal.

2. summative:

The first part of the lesson, students are asked to copy patterns by drawing and coloring. Teacher should walk around and check that students are identifying the shapes and colors and are able to reproduce them. Additionally, teachers should check for understanding by asking each student questions during class discussion.

### **CONCEPTUAL BACKGROUND:**

Patterns can be found on the bodies of different plants and animals. Patterns differ from species to species and even within the same species. In teaching this lesson a teacher must understand the concept of patterns and how to observe them in nature.

Pattern is a design that is repeated. In this case we are talking about patterns that appear on the body of animals.

**LESSON IMPLEMENTATION PLAN:** The first parts of the lesson, drawing patterns and matching patterns to the animal, are to be done in pairs. The last part, where the students observe the animals and draw what they see as a pattern is to be done alone.

**ENGAGE –**

The teacher will read the book, *Lots and Lots of Zebra Stripes: Patterns in Nature*. The teacher will ask the students, why are there so many different patterns on animals? The teacher will ask the question: What patterns do you see? Every student will have a chance to express what they think is the pattern.

**EXPLORE –**

In pairs students will be handed a pattern discovery sheet, and will be asked to explore the large prints by breaking it into color and shapes and then recreating it. After they are done with the first two parts, The teacher will ask each student to either draw a picture or write a word to guess what animal they think the pattern came from and the teacher will then have students work with their partner to complete Matching Patterns to Animals. The teacher will walk around and ask questions and check if they are completing the worksheet properly.

**EXPLAIN –**

The teacher will have each pair of students present the completed matching patterns and say whether or not they guessed which pattern went with each animal successfully. The teacher will lead a class discussion on the type of patterns, how different the patterns look close up vs. on the animal. The teacher will keep the discussion open until every student is able to understand what a pattern is and how it differs from animal to animal.

**ELABORATE –**

The teacher will elaborate on the purpose of patterns in different animals. The teacher will show examples of animals using color to look more attractive. The teacher will show animals that use patterns and color to camouflage themselves from predators such a butterflies and moths.

EVALUATE –

(a) summative -

	 1	 2	 3	
Identifying shapes and colors in patterns on the pattern discovery worksheet.	Students are able to identify the colors and shapes for 0-2 patterns.	Students are able to identify the colors and shapes for 3-4 patterns.	Students are able to identify the colors and shapes for 5 patterns.	
Students verbally answer questions about patterns during class discussion.	Student is unable to answer questions.	Student answers question but also has some incorrect answers.	Students correctly answer questions during group discussion.	

(b) formative –

1.

	 1	 2	 3	score
Matching animal to pattern worksheet	Students matched 0-2 patterns with the animals	Students matched 3-4 patterns with the animals	Students matched 5 patterns with the animals	
Drawing	Students didn't	Students drew	Students drew a	

pattern on Schneider's skink	draw a pattern and used different colors than on the Schneider's skink	either an incorrect pattern or used different colors than on the Schneider's skink but not both.	pattern found on the Schneider's skink and used the correct colors.	
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**DIFFERENTIATION PLANS:**

**Behavioral for Student A**

One common issue with students with behavioral disabilities is low attention spans. The teacher will model good behavior with the other students. The teacher will move the student away from friends that encourage the behavior and place the student in the front of the room with attentive and quiet students. The teacher will give positive reinforcement when student A is modeling good behavior.

**Cognitive for Student B**

One common issue with students with cognitive disabilities is having diminished ability to read. The teacher will pair the student with someone who can read and have the student draw and verbally explain their answers.

**Cognitive for Student C**

Common problems for students with cognitive disability are issues with short term memory. The teacher should repeat the steps and have the student repeat back what they need to do. The teacher would remind her and the rest of the class what they need to do when they move from one step to another. The teacher will also have word walls on patterns and basic information of the Schneider's skink as a reinforcement of important concepts.

**Affective for Student D**

A common problem for students with affective disabilities is being overly shy and withdrawn from other students. The teacher will encourage inclusion for the student. The teacher will check and encourage the student to interact in groups. If speaking in large groups causes anxiety, the teacher can modify it by allowing the student to speech in front of a small group of peers or to record their voice ahead of time.

**Language Demands for Students E, F, G**

For these students, the teacher will focus on reinforcing the word "pattern". The teacher would make sure that there is a word wall with examples of patterns and shapes. When talking to the class the teacher will try to use simple words. The teacher will give them a choice of responding verbally, drawing the picture or writing a word.

**LIST OF MATERIALS (PER GROUP):**

- Two sets of crayons
- Worksheet: Matching Patterns to Animal
- Worksheet: Observation of Pattern
- Worksheet: Pattern Discovery

**DIRECTIONS OR SPECIAL INSTRUCTIONS; SAFETY CONCERNS, ETC.**

- **Students can't handle or touch animal or its cage.**